EUROPEAN PATENT OFFICE

Patent Abstracts of Japan

AD

PUBLICATION NUMBER : 04003482 PUBLICATION DATE : 08-01-92

APPLICATION DATE : 20-04-90 APPLICATION NUMBER : 02103196

APPLICANT: NIPPON TELEGR & TELEPH CORP

<NTT>;

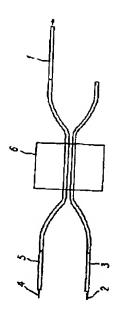
INVENTOR: KOMUKAI TETSUO;

INT.CL. : H01S 3/17 C03C 3/32 C03C 4/12 G02B 6/00 G02B 6/16 G02F 1/00

G02F 1/35 G02F 1/35 H01S 3/094

TITLE : FIBER LASER MEDIUM AND OPTICAL

AMPLIFIER USING THE SAME



ABSTRACT :

PURPOSE: To obtain the light of a 1.3µm band with high efficiency, and to enable connection with a fiber for infrared light for optical communication in low coupling loss by using the fluoride glass fiber simultaneously containing specific quantities of Nb and Eu in a core section.

CONSTITUTION: The composition of a fiber laser medium is composed of ZrF₄=50-58mol%, BaF₂=33-36mol%, LaF₃=3-6mol% and AlF₃=2-5mol%, and both NbF₃ and EuF₃ are brought to 1mol% or less The core diameter of the fluoride fiber is set at 5.5-7.5 μ m, a clad diameter at 125 μ m and a cutoff wavelength at 0.78-0.80. Excitation light 4 input to a synthesizer 6 through an optical fiber 5 is brought to approximately 95% of intensity, where a laser medium 1 begins to oscillate, laser beams 2 as an optical signal are input to the synthesizer 6 through an optical fiber 3, and an optical signal amplified is taken out of the laser medium 1 coupled with the output end of the synthesizer.

COPYRIGHT: (C)1992,JPO&Japio